

AMENDED IN SENATE JUNE 21, 2011

AMENDED IN ASSEMBLY MAY 27, 2011

AMENDED IN ASSEMBLY APRIL 25, 2011

AMENDED IN ASSEMBLY MARCH 31, 2011

CALIFORNIA LEGISLATURE—2011–12 REGULAR SESSION

ASSEMBLY BILL

No. 296

Introduced by Assembly Member Skinner
(Coauthors: Assembly Members *Blumenfield*, *Fletcher*, and *Gordon*)
(Coauthor: Senator Hancock)

February 9, 2011

An act to add Chapter 5 (commencing with Section 14457) to Part 5 of Division 3 of Title 2 of the Government Code, and to add Section 18941.9 to the Health and Safety Code, relating to building standards.

LEGISLATIVE COUNSEL'S DIGEST

AB 296, as amended, Skinner. Building standards: cool pavement.

(1) Existing law requires the Department of Transportation to adopt a balanced, multimodal research and development program, including the research and development of new technologies.

This bill would establish the Cool Pavements Research and Implementation Act and would ~~require~~ *encourage* the department, ~~in consultation to consult and coordinate~~ with specified state agencies, to implement the act. The bill would require the department to publish or make available on the department's Internet Web site, by January 1, 2014, a Cool Pavements Handbook to detail specifications, testing protocols, and best practices for cool pavements.

The bill would require the department to implement one or more cool pavement pilot projects, with the goal of completion of the pilot projects no later than January 1, 2018, and to submit a report to the Legislature with an analysis of the various costs of pavement surfaces and the results of the cool pavement pilot projects.

(2) The California Building Standards Law requires any building standard adopted or proposed by a state agency to be submitted to, and approved or adopted by, the California Building Standards Commission prior to codification.

This bill would require the commission, in the next triennial adoption process of the California Green Building Code that begins on or after January 1, 2015, to consider incorporating those specifications proposed in the Cool Pavements Handbook as additional strategies for Heat Island Effect: Hardscape Alternatives in the California Green Building *Standards Code*.

Vote: majority. Appropriation: no. Fiscal committee: yes.
State-mandated local program: no.

The people of the State of California do enact as follows:

- 1 SECTION 1. The Legislature finds and declares all of the
- 2 following:
- 3 (a) The heat island effect (HIE) is a phenomenon characterized
- 4 by ~~the a~~ temperature differential between developed and rural ~~areas~~
- 5 *lands*.
- 6 (b) The cause of the HIE is land modification in urban and
- 7 suburban areas, principally with impervious hardscape materials
- 8 that absorb more heat energy from the sun than do soil or vegetative
- 9 surfaces. As a result, surrounding surface and air temperatures
- 10 become artificially elevated *contributing to air quality decline and*
- 11 *other public health and environmental issues in urban areas*.
- 12 (c) Impervious hardscape cover is also a major contributor to
- 13 stormwater runoff, contributing to water pollution and elevating
- 14 water temperatures.
- 15 (d) The intent of this act is to have the Department of
- 16 Transportation (Caltrans) publish statewide specifications and best
- 17 practices for using “cool pavements” that reduce the HIE from
- 18 sidewalks, roads, plazas, highways, parking lots, schoolyards, or
- 19 any surface designed for vehicular or pedestrian use.

(e) The publication is meant to increase awareness of paving options that mitigate, rather than contribute to, the HIE and other impacts of impervious hardscape surfaces. Hardscape alternatives, also known as “cool pavements,” such as those with high solar reflectivity, provide one or more of the following benefits:

- (1) Reduced outdoor surface and air temperatures.
- (2) Reduced formation of ground-level ozone or smog.
- (3) Reduced wear from diurnal thermal stress.
- (4) Indirectly reduced demand for electricity, and thereby reduced emissions.
- (5) Reduced stormwater runoff.

(f) Examples of cool pavements include, but are not limited to, high albedo pavements and coatings, vegetative surfaces, porous or pervious pavements that allow water infiltration, and ~~shaded pavements~~ *pavements shaded by trees and other sources of shade*.

(g) The specifications, testing protocols, and best practices established by this act should complement the voluntary nonresidential provision in the California Green Building Standards Code on Heat-Island-Effect: Hardscape Alternatives (Section A5.106.11.1 of Appendix 5 of Part 11 (commencing with Section 101.1) of Title 24 of the California Code of Regulations), while expanding the allowable ways to meet the goals of that provision.

(h) This act provides for the development of a Cool Pavements Handbook by the Department of Transportation (Caltrans), in consultation with other relevant state agencies and departments. The handbook is intended to be limited to a collection of existing specifications, testing protocols, and best practices for hardscape alternatives that reduce the effect specified in subdivision (b), relative to traditional hardscape surfaces.

(i) This act further provides for one or more cool pavement pilot projects to be developed and studied to evaluate the economic, environmental, and public health benefits of cool pavements.

SEC. 2. Chapter 5 (commencing with Section 14457) is added to Part 5 of Division 3 of Title 2 of the Government Code, to read:

CHAPTER 5. COOL PAVEMENTS RESEARCH AND
IMPLEMENTATION ACT

14457. For purposes of this chapter, the following definitions shall apply:

1 (a) “Cool pavement project” means a project that uses a cool
2 pavement to reduce the heat island effect by meeting the criteria
3 specified in the Cool Pavements Handbook published pursuant to
4 Section 14459.

5 (b) “Heat island effect” or “HIE” means the temperature
6 differential between developed and rural areas caused by
7 impervious hardscape materials.

8 ~~14458. (a) The department shall implement this chapter in~~
9 ~~consultation~~

10 *14458. (a) In implementing this chapter, the department is*
11 *encouraged to consult and coordinate* with the Department of
12 General Services, the California Building Standards Commission,
13 the State Water Resources Control Board, the State Energy
14 Resources Conservation and Development Commission, the State
15 Air Resources Board, the State Water Quality Control Board, *the*
16 *Department of Forestry and Fire Protection, the Strategic Growth*
17 *Counsel*, and any other relevant state department or agency.

18 (b) The department may enter into an agreement with the United
19 States Department of Transportation, the United States
20 Environmental Protection Agency, the United States Department
21 of Energy, or other federal agencies, to coordinate implementation
22 of Sections 14459 and 14460, including studying the environmental
23 benefits, energy savings, life cycle, and durability of various
24 pavement options.

25 (c) This chapter shall be known, and may be cited, as the Cool
26 Pavements Research and Implementation Act.

27 14459. (a) On or before January 1, 2014, the department shall,
28 with input from other relevant agencies listed in subdivision (a)
29 of Section 14458, publish or make available on its Internet Web
30 site a Cool Pavements Handbook that incorporates existing
31 specifications, testing protocols, and best practices, as appropriate,
32 for cool pavement use.

33 (b) The Cool Pavements Handbook shall identify ~~a cool~~
34 ~~pavement paving material or technique that does cool pavement~~
35 ~~paving materials or techniques that do~~ one or more of the
36 following:

37 (1) ~~Reduces~~ *Reduce* surface temperature relative to traditional,
38 unshaded asphalt concrete.

39 (2) ~~Has~~ *Have* a light color or high albedo.

40 (3) ~~Reduces~~ *Reduce* diurnal thermal stress.

1 (4) ~~Removes~~*Remove* greenhouse gases through photocatalytic
2 *or photosynthetic* processes.

3 (5) ~~Reduces~~*Reduce* stormwater runoff via increased water
4 infiltration to the underlying surface, including, but not limited to,
5 using porous pavements, open-grid systems, vegetative surfaces,
6 or bioswales.

7 (c) The department may include, in the Cool Pavements
8 Handbook, any other material or technique found by the
9 departments to reduce the HIE, ozone formation, or stormwater
10 runoff.

11 (d) The Cool Pavements Handbook shall include specifications
12 and best practices, where available, for sidewalks, roads, plazas,
13 highways, parking lots, schoolyards, or any surface designed for
14 vehicular or pedestrian use.

15 (e) The Cool Pavements Handbook shall be referenced in the
16 relevant sections of the department's Construction Manual and be
17 made available to the public.

18 14460. (a) The department shall implement one or more cool
19 pavement pilot projects, with the goal of completing construction
20 by January 1, 2015, and completing an analysis of the pilot projects
21 no later than January 1, 2018.

22 (b) On or before January 1, 2018, the department shall submit
23 a report to the Legislature in accordance with Section 9795. The
24 report shall include an analysis of the *upfront and life-cycle* costs
25 of using various pavement surfaces and the results of the cool
26 pavement pilot projects. The report shall also include the
27 environmental benefits, energy savings, ~~life-cycle~~, and durability
28 of various pavement options.

29 (c) The requirement for submitting a report imposed under
30 subdivision (b) is inoperative on January 1, 2022, pursuant to
31 Section 10231.5 of the Government Code.

32 SEC. 3. Section 18941.9 is added to the Health and Safety
33 Code, to read:

34 18941.9. The commission shall, in the next triennial adoption
35 process for the code adopted after January 1, 2015, consider
36 incorporating those specifications proposed pursuant to Section
37 14459 of the Government Code as additional strategies for Heat
38 Island Effect: Hardscape Alternatives in the California Green
39 Building Standards Code (Section A5.106.11.1 of Appendix 5 of

1 Part 11 (commencing with Section 101.1) of Title 24 of the
 2 California Code of Regulations).

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5 **CORRECTIONS:**

6 **Text—Page 5.**

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